Short Knowledge Transfer Partnerships in the East Midlands Low Carbon Sector

A report for *emda*

EMFEC

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This report has been produced by EMFEC for emda (East Midlands Development Agency) and AoC East Midlands Skills for a Low Carbon Economy Task Group. It draws on data gathered via primary and secondary research examining the feasibility and provision of Short Knowledge Transfer Partnerships (sKTPs) linked to the low carbon sector. The FE Low Carbon Task Group acknowledges and thanks all those who contributed to the report, participated in the surveys and provided information.

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Short Knowledge Transfer Partnerships

Contents

Context to the sKTP Programme

The main context for this project is government policies and priorities for economic growth in the Low Carbon Economy Goods and Services (LCEGS) Sector.

Part of this strategy is the need to ensure a growth in the skills sector to supply businesses with competent and qualified staff able to sustain employment in the sectors contributing to low carbon prosperity.

To encourage growth in Low Carbon (LC) skills and capacity in further and higher education, a number of initiatives have been undertaken.

The East Midlands Regional Development Agency (emda) has been working with Further Education Colleges in the East Midlands for over three years on a number of projects designed to expand FE's provision of low carbon skills. These include the Skills4Energy project, a capital investment programme for colleges to acquire low carbon technology and funding for a number of projects to encourage expansion in low carbon expertise and technology capacity.

As part of this set of initiatives a proposal was made to introduce Knowledge Transfer Partnerships (KTP) to the FE sector specifically targeted at low carbon sector projects.

Via the FE Colleges Energy Task Group, co-ordinated by AoC East Midlands and EMFEC, a project was developed to encourage colleges to become partners in a shortened version of KTP, known as sKTPs, details of which are identified below.

The intention was to encourage colleges to work with business partners on projects designed to stimulate technology transfer between them.

This report identifies the stages in the project, the processes and experiences of the project, identifies its successes and problems and makes recommendations regarding future technology/knowledge transfer strategies for FE Colleges.

Objectives of the Low Carbon sKTP Programme

The objectives of the emda funded programme were as follows:

1 To facilitate employer engagement between businesses in the low carbon sector and FE colleges developing their low carbon expertise and curriculum.

2 To offer CPD opportunities for employees of both organisations and the " associate" to grow the quantum of low carbon technology expertise in the sector.

3 To encourage the applied research and development programmes for curriculum development in colleges by stimulating new and innovative approaches to skills development and delivery.

Overall sKTPs were encouraged as an ideal vehicle for stimulating the FE sector's engagement in low carbon technology transfer and thereby contributing to the regional low carbon strategy.

sKTP Work Plan

The following elements in the Work Plan were scheduled with the intention of achieving up to 20 live sKTPs by March 2011.

1 Promotion of sKTP via the East Midlands Colleges Energy Task Group; including a one day training programme on sKTP led by the founder service, Technology Strategy Board (TSB)/KTP regional staff and emda.

2 Appointment of a KTP "Finder Service", funded by emda to promote KTPs and search for businesses which were interested in participating in the scheme.

3 Contract issued to EMFEC to finance a brokerage service to assist colleges in engaging with enquiries from the Finder Service and identifying colleges with the most appropriate expertise to partner with the business.

4 Progress reporting via the LC/Energy Task Group to emda officials.

A fully detailed description of sKTPs and their operation is contained in Appendix A.

Defining the Low Carbon Economy

For the purposes of the sKTP programme the low carbon sectors which were eligible for support were prescribed by the partners, with advice from emda, as follows:

Knowledge and Technology Transfer Areas: Scopes of Activity
Manufacturing
• EMS/QMS • Resource efficiency – clean/lean manufacturing • Process innovation • Design • Innovation and markets/diversification • R&D
Vehicles
• Maintenance and Servicing • Low carbon fuels • Energy storage i.e. fuel cells and batteries • Transmission/drive trains • Fuelling infrastructure
Renewable Energy
• Wind turbines and system • Solar (heat and PV) panels • Ground/air/water source heat pumps • Biomass boilers • Waste to energy boilers • Domestic and commercial/industrial
Building Services
• Space and water heating • Power and lighting • Mechanical systems i.e. conveyors/machinery/lifts • Design and innovation • Maintenance • CHP

Energy Networks
• Conventional electricity distribution and transmission sectors and supply chain • Private wire systems • District heating • Decentralised systems
Management and Innovation
• Change management • Access to markets/marketing • Growth • Opportunity identification • Skills/technology/markets analysis • People development

It is interesting to note that these sectors differ from those defined in a parallel project on mapping low carbon skills, commissioned by emda and informed by a research report produced by Ekosgen. For example, inclusions in the sKTP sector include manufacturing, management and innovation which are not covered by Ekosgen, who instead include pollution and water technology but exclude vehicles.

Nevertheless, the colleges' finder service and brokerage service agreed not to exclude any proposal provided it met the criteria of TSB which would receive applications for sKTP funding. The regional representative of TSB was party to these discussions.

On the basis of the sKTP project timetable, a number of activities were undertaken in parallel. These were:

1 KTP Finder Service seeking prospective business partners.
2 Promoting sKTP to colleges and employer groups.
3 Following up enquiries and expressions of interest generated from 1 and 2.

A list of all the enquiries, expressions of interest and project proposals is contained in Appendix B.

At this stage (Nov to Dec 2010) all the early work was based upon the sKTP model. In December 2010 the TSB announced fundamental changes to the KTP programme including sKTPs, the effect of which was to disrupt the work plan and the targeted outputs.

TSB Announcement December 2010

In December 2010 the TSB announced changes to the criteria for supporting KTP projects. A copy of their bulletin is contained in Appendix C. The primary reason for these changes was the public expenditure cuts and the closure of several quangos which funded TSB, such as the Regional Development Agencies.

As a consequence the TSB introduced the following changes:

- A moratorium on KTP applications generally including the non-availability of the portal for applications.
- Withdrawal of sKTPs and the introduction of a minimum qualifying project period of six months and substantially high financial contributions from partners.

The effect of this announcement was to impact significantly on the remainder of the project. The reasons why these changes had a special impact were as follows;

1 The project was in its infancy and the partners had little or no experience of KTPs.

2 The period of promoting the project was immediately prior to the announcement thus undermining the work which had already been done.

3 The new criteria for applying for KTP effectively "raised the bar" for FE Colleges to a point where they would have much greater difficulty in commencing and fulfilling their obligations under the scheme (see later section of barriers to FE participation in KTPs).

4 Other parts of the public sector were experiencing the same financial pressures and this meant the extra funding requirements for "classic" KTPs put them out of reach of most colleges suffering funding cuts.

5 The tightening of the criteria for application also affected the FE initiative because the TSB signalled that only projects with "life changing" potential would be considered against a much more rigorous set of criteria which would preclude many of the "toe in the water" type projects suitable for FE to take its first steps in knowledge transfer.

Altogether these new proposals disrupted the project substantially. However, with the support of emda, it was decided that having contracted for the project the most beneficial solution was to continue with the project as follows:

1 Continue with the finder service and brokerage arrangements to identify further opportunities which could be developed into KTPs (under the new criteria) or as employer engagement projects for colleges. This was, and still is, important as colleges need to grow their low carbon sector specialism and expertise. In the absence of other mechanisms for this to happen it was felt that continuing the project and encouraging engagement was the most beneficial option.

2 Record the progress of the project, gathering evidence of how knowledge transfer could and should operate in the low carbon sector, to assist FE to grow its capacity.

3 Identify the issues and barriers to progressing the projects including any further contact with TSB, if and when their capacity to receive and progress KTP applications improves.

4 Identify the components of a successful KTP and see if these can be translated into an FE environment given the constraints of such.

5 Recording the progress, or otherwise, of the sKTP expressions of interest.

6 Collation of the final report making recommendations on how KTPs could be adapted to be attractive to FE, identify the benefits in particular of using KTPs to facilitate and encourage the growth of low carbon skills capacity in colleges.

Experiences of Progressing sKTP Expressions of Interest

Over the period November 2010 to February 2011 the finder service, brokerage and colleges were engaged in identifying potential business partners for sKTPs, the majority of enquiries being generated by the finder service.

A full list of the progress and status of each of these is contained in Appendix D.

In order to progress each enquiry, liaison was maintained between the company, the college, the regional KTP scheme and the finder service.

In addition to the problems caused by the TSB's enforced changes to the KTP application criteria, it became clear that even if these had not taken place many colleges were facing challenges in progressing their interest in a project.

In collaboration with emda, it was agreed that it would be beneficial to capture these experiences and ensure that the barriers, difficulties and issues which were constraining the development of sKTPs be identified and reported. Also it was agreed that the report should make recommendations regarding the future engagement of colleges in KTPs so that potential benefits could be achieved for all parties.

Therefore a detailed study of the early experiences of sKTP was undertaken with interviews of colleges, feedback from members of the Energy Task Group and other partners in the project.

Following on from this study, emda requested that proposals and recommendations be made to improve the process. Consequently the remainder of the project focuses on the experiences of the project, identification of the problems and barriers and recommendations as to the future technology transfer component of the FE Colleges' low carbon skills development strategy.

Problems, Difficulties and Successes in Operating Low Carbon sKTPs in FE Colleges

In addition to the impact of the TSB changes previously mentioned, the following three categories of problems were identified:

1 Suitability of the sKTP programme as a mechanism/process for developing low carbon skills capacity and employer engagement in FE Colleges.

2 Capacity/expertise of the colleges in KTPs in low carbon technology.

3 Suitability and relevance of the enquiries and outline proposals generated by the finder service and others.

Lessons and recommendations are also identified from the projects which currently are proceeding so that potentially successful projects can be used as a means of capturing the features and characteristics of that success.

Suitability of sKTPs as a Mechanism for Developing Low Carbon Skills Capacity in FE Colleges

The potential benefits of using KTPs to develop low carbon provision in colleges are:

- It enables colleges to engage with businesses in the sector and up-skill staff in the latest technology.
- It enables staff to share their expertise and so benefit the business.

However, in the case of low carbon technology, it has to be recognised that colleges are, in many cases, only at the starting point of developing their expertise and do not have staff who are sufficiently qualified and experienced to add value to a project. Therefore the KTP becomes a "one way street" of exchange from the firm to the college.

Whilst KTPs have been in existence for more than 30 years, they have not been taken up by FE generally, let alone in a new technology such as low carbon, because of some inherent difficulties, whether real or perceived. It is important to identify these difficulties so that strategies and recommendations can be made to reduce them.

- The KTP application process is seen as being convoluted, bureaucratic and intrusive. For example, the business' financial health has to be verified and evaluated before receiving public funding.
- The vocabulary is complex and the pathways to gaining approval are not clear.
- To qualify colleges need to have been teaching at Level 4 or above which is often not the case.
- The criteria for making a successful bid are ambiguous and often do not correspond with the objectives of the partnership for the FE partner (i.e. to gain knowledge and expertise relevant to curriculum development and raising student achievement levels).
- Whereas universities have RAE and other R&D targets, this is not the case in FE where the college's mission, strategies and targets are generally imposed or, at least, heavily influenced by external agencies such as Government or Ofsted, which set no targets or objectives for colleges in this regard. There is no pressure or target imposed on colleges to deliver KTP or the applied

research associated with them. There is no ready supply of or support for post graduates to act as associates.

Consequently many of the facilitation and support arrangements needed for successful KTPs is missing from a typical mainstream FE college (but could exist in some HE/FE hybrid institutions) and there appears to be no incentive on the part of colleges to grow them.

For low carbon technology these problems are magnified by the infancy and newness of much of the technology with which the staff are suppose to engage. Developing low carbon technical expertise is costly and despite recent capital investment from emda many colleges are deficient in resources. KTPs do not invest in capital and the "return on investment" in a KTP is seen by colleges as being very low and often below the return which can be achieved by running full cost courses with the same level of staff resources.

Colleges view KTPs as being too specialist, narrow and disconnected from the FE curriculum to offer appropriate development opportunities for staff or to bring in suitable curriculum material or technology relevant to the needs of learners at levels1-3 who are the mainstream clients for the majority of FE. For the limited time and funding available for KT or TT, colleges believe there are more effective ways of achieving the objective of growing capacity in low carbon skills.

Capacity and Expertise of Colleges to Deliver KTPs in Low Carbon Technology

Following on from the issues related to the suitability of KTPs to FE must be the hurdles associated with FE coping with the introduction of a new technology per se.

- Just as with computer and information technology in the 1980s, FE is only just starting to "low carbonise" its curriculum and range of courses. Much of the provision is in its infancy and staff are destined to implement a new set of technologies in line with external parameters from Government, SSC, Awarding Bodies and employers. In many respects low carbon technology is innovative and new to many FE staff who have not experienced it anywhere else.

- There are little or no staff development (CPD) opportunities in low carbon technology and yet staff have been expected to engage in knowledge transfer when they have little to offer themselves. This has been exacerbated because the projects identified by the finder service have not been, in most cases, in areas which link directly to the curriculum development needs of the college.

- To qualify for a KTP, colleges are supposed to have provision at least at Level 4. Whilst some colleges do, it is clear that many have only a little and often this is not in the areas of low carbon technology.

- Staff in building, construction and motor vehicle technology departments are often technically qualified themselves to Level 3 or 4. They have no experience of R&D, or of supervising an associate or research assistant, who may be at Level 5/6.

- Recent financial and targeting pressures on colleges do not create a climate for innovation, R&D and risk taking. College performances are not measured by the rate of innovation in low carbon or any other technology. Indeed quality assessments, including inspections, stay away from inspecting technical innovations and this is infrequently reported on in Ofsted inspection reports.

- College "climates" are therefore ill equipped to take advantage of the potential benefits of KTP, a fact which is reflected in the low take-up of them nationally across all areas of technology. KTPs have had minimal success in FE generally and expecting this approach to be successful in a new technology was, and still is, a "bridge too far" for FE.

Suitability and Relevance of the KTP Enquiries and Outline Proposals

Given that FE colleges are at the early stages of introducing low carbon technology to the curriculum, it was important that the sKTP proposals, enquiries and employers engaged in this should reflect and be associated with the specific curriculum areas being developed by the colleges. It would have been fortuitous if all the enquiries had come from businesses in the Ekosgen Survey of low carbon clusters which in many ways reflect the categorisation of technologies in colleges.

However, this was not the case, which resulted in some expressions of interest receiving no response from the colleges.

In total ten leads have currently been generated by the finder service. An update on their status is contained in Appendix E.

A further small number of enquiries generated outside the finder service are also being progressed.

Unfortunately the TSB imposed changes to the eligibility criteria has meant that the majority of the projects would not qualify for support. This has been the most disappointing aspect of the programme, resulting in a lot of work and effort being wasted and some frustration on the part of colleges and businesses who were originally potentially eligible for a sKTP.

It is imperative that if future rounds of KTPs are adapted to make them suitable for FE colleges that the selection criteria for business partners reflects the interests and expertise of the college (see Recommendations). In particular the projects should focus not on high level R&D but on developing skills needed to install/commission/maintain/inspect/rectify technology in "field" conditions – the technician level skills which are capable of being delivered by FE and which, in the case of low carbon, are in need of urgent attention in order to satisfy the growing demand from employers.

Finally, feedback from colleges has identified that the financial aspects of KTP is not attractive and does not offer value for money for the investment in time and resources needed to initiate and operate a successful project. When these projects sit outside the areas of interest, capability or capacity of the college, it makes the decision not to participate even easier.

Criteria for Successful KTPs (using university based projects as examples)

Using the KTP online web site and experiences shared at interview, there emerges a series of key features which help KTPs to be successful. However, many of these relate to "classic" KTPs run on traditional lines involving universities with a long track record in knowledge and technology transfer.

However, there are lessons which a FE based KTP should take on board in order to improve the probability of success. The key factors quoted in the case studies include:

- Selecting the right associate and ensuring that the business partner is clear about the level of support needed. Most associates are operating at postgraduate or doctorate level and have R&D skills as well as level 5+ qualifications in the relevant areas.
- The business partner must be able to support the associate and ensure that the project aligns itself with the business need. Mentorship from both institutions needs to be effective and well co-ordinated.
- The associate needs to have their experiences co-ordinated using a detailed development plan with clear milestones and targets agreed by all partners.
- The associate needs to have good access to staffing and resources in the academic institution and support in the work place needs to be readily available and at an appropriate level.

One interview with an employer who had undertaken a KTP based in the East Midlands revealed difficulties in the continuity of associates, with more than one person being the associate during the life of the project. This underlines the need for a clear commitment from the associate for the duration of the project and the need for the academic institution to provide support outside the typical academic year/vacation calendar.

Given that businesses operate much less generous holiday arrangements it is important to clarify the terms and conditions of the associate support from the university at the outset.

Interpreting this experience and translating it into the setting of a FE based project is difficult but the review of successful KTPs in the university sector does indicate the need for experience in managing R&D projects and associates operating at post graduate level – experience which is lacking in most FE colleges.

For these reasons it is essential that if FE is to participate in KTPs then a thorough preliminary process of establishing the management arrangements for the project needs to be put in place prior to commencement.

New Models of Supply Side Capacity Building and Knowledge Transfer

When developing its low carbon technology provision the dilemma for colleges is:

(a) should it grow its provision and then seek employer engagement from a position of being able to offer high quality, response provision or
(b) engage with employers to assist in guiding and defining the growth in capacity to ensure that it is what employers want and the engagement process helps staff to raise their eyes to what is happening in business and improve their own competencies?

Most colleges have taken a pragmatic view of investing in new facilities by developing capacity through a “reverse engineering” model which takes its lead from business and uses its leadership to define the direction of capital investment and curriculum development. This process has, in many ways, been usurped by Sector Skills Councils, Awarding Bodies and others who have been given powers to intervene in what is being delivered to students.

Against this backdrop, the challenge for colleges engaged in growing their low carbon technology and skills capacity is to (either independently or collectively), introduce new models of employer engagement and associated technology and skills transfer, which will together increase the supply side and their ability to satisfy the increasing demand for low carbon skills.

Recommendations

There is a broad set of recommendations to be made and then a specific set relating to the adaptation of KTPs as a vehicle for contributing to the supply side and technology transfer in particular.

These first broad recommendations reflect the innovative nature of the low carbon technology skills supply side in FE colleges and the need to invest in it urgently. The following recommendations are made:

- Identifying, investing in and establishing national, regional or sub region centres for specific types of low carbon provision which would enable investment to be fully utilised, achieve economies of scale, grow expertise faster and be able to link more directly with employers.

  This builds on the National Skills Academy programme where the Environmental Technologies Academy is already having a major beneficial impact on provision.

- Closer collaboration with employers, businesses and trade associations, including agreements to deliver training on behalf of equipment and systems manufacturers.

- Earmarked investment from central government, regeneration agencies and college funding bodies should be targeted at low carbon teaching facilities in colleges.

- In the East Midlands the emda and NTI funded projects provided the most significant investment in facilities in the region – far outweighing the colleges' own internal investment funding which in many cases has been minimal.

- The SFA/Funding Agency should consider changes to the funding methodology to encourage the growth of low carbon provision.

- Because low carbon is the fastest changing area of the curriculum, colleges should prioritise CPD, R&D and investment in facilities for this sector.

- Staff Development, secondments, shadowing and technical and professional updating of staff in low carbon should be a priority.

- R&D in colleges should be more recognised, formalised and funded – linking with HEIs/universities and research bodies such as TSB through the KTP and similar programmes.

- Governing Bodies should take a closer interest in low carbon, setting targets for innovation and responsiveness in the colleges' curriculum. This power is available to them within the Instruments and Articles of Governance.

Alternative Approaches to Knowledge Transfer in FE Colleges

The research undertaken to identify how Knowledge Transfer in low carbon can be expanded and strengthened has identified that those colleges which are committed to developing their provision in the low carbon sectors employ a wide variety of strategies and activities to accomplish this. It is important to identify these as alternatives to KTP and their contribution to expanding skills capacity and competency.

- Links with Trade Associations and Professional Bodies

  Many colleges have strong links with trade associations and professional bodies such as the Rainwater Harvesting Association with Chesterfield College. Membership of the Trade Association's education and training committees is evident at North Nottinghamshire College's National Fluid Power Centre which links closely with the British Fluid Power Association.

- Role of Advisory Boards

  Many colleges have advisory boards which provide strong links with employers and trade bodies. They provide opportunities for secondments of staff and are able to provide visits and technical forums for staff.

- Special Interest Groups

  Colleges are often members of special interest groups such as the AoC/EMFEC East Midlands Skills for a Low Carbon Economy FE Task Group. These groups offer ideal opportunities to share knowledge between institutions and the organisation of staff development opportunities.

- In-Company Training Programmes

  Often colleges will be able to access the training programmes of equipment manufacturers especially if this is linked to the packages of equipment by the college.

- Role of National Skills Academy, Sector Skills Councils and Awarding Bodies

  Cross sector institutions have a key role in providing Knowledge Transfer as part of the continuous programme of updating colleges on the national curriculum requirements for courses under their jurisdiction.

  This aspect of Knowledge Transfer is common because it links directly to the course content and students' learning needs. It comes under the most frequent scrutiny and is most closely associated with the key tasks of staff.

- Co-ordinating Knowledge Transfer in the College and FE Sector

  Low carbon technology is probably the single biggest innovation in the FE curriculum since the introduction of computers and information technology in the last century. For low carbon technology to succeed in colleges, the institution needs to take a co-ordinated approach to up-skilling those staff and functions on which it is impacting.

  Knowledge Transfer delivered in a co-ordinated way can assist this process of change. To succeed Knowledge Transfer activities need to be given more prominence in CPD programmes, strategic plans and curriculum development activities.

  Staff need to focus their CPD/Appraisals and curriculum development activities using many of the approaches identified above, in ways which suit the needs of the individual, the institution and the particular characteristics of the low carbon sector of interest.

Given the wide range of technologies in the low carbon sector and the different rates and types of technological developments being experienced, it is not possible to rely upon one model or approach to Knowledge Transfer – each sector needs its own strategy. Linked undoubtedly to this will be a combination of activities which work for those involved.

What is of concern is that there is little evidence of low carbon Knowledge Transfer being systematically developed in colleges and there is an opportunity and need for this to be developed in the future.

Conclusion

The report identifies that KTPs do have a contribution to make to low carbon technology, knowledge and skills development between FE and business. However, as KTPs are currently organised and administered there are several factors in their character and operation which make them difficult to initiate and operate in an FE college. Their unsuitability is evidenced by the fact that very few have taken place across the country as a whole. The tightening of the criteria in December 2010 has increased the degree of difficulty facing colleges wishing to engage in Knowledge Transfer.

The experiences of this project identified fundamental structural aspects of KTPs for the low carbon sectors which exacerbated the underlying difficulties with such projects, most notably that FE Colleges were and are only just engaging in this technology themselves, at a technician and craft level, which limits their capability and capacity to engage in KTPs.

Therefore if the TSB wishes to engage FE in KTP it needs to reviews its criteria, operations and expectations so that FE's strengths can be utilised in Knowledge Transfer, by adapting what is fundamentally a beneficial model to meet the characteristics, capabilities and limitations of colleges. Colleges may wish to engage in Knowledge Transfer outside the TSB model and to seek financial support or self-fund a model of KTP which can accelerate the development of low carbon sector skills. Whilst suggestions have been made regarding adapting the TSB model of KTP it appears that Knowledge Transfer can be achieved in a number of other ways without being branded "KTP". The transfer of knowledge, expertise and skills competency undertaken by other mechanisms is likely to be more attractive to and achievable by FE colleges.

Certainly the low skills sector in colleges needs to accelerate and grow its range of provision and mechanisms to engage with employers, suppliers of equipment and the low carbon industry at large (however it is defined). At the moment there does not seem to be a co-ordinated strategy either nationally or in individual colleges to make this happen. This deficiency needs to be addressed and whilst naturally this may take time and government intervention and ambition, there is nothing stopping individual colleges from developing their own strategies and actions to address the skills needs of the low carbon sector.

Appendix A: sKTP Finder Service Booklet

SKTP Finder Service

Introducing sKTPs

Introduction

Knowledge Transfer Partnerships (KTP) is a UK-wide, government funded initiative, enabling organizations to improve on productivity, competitiveness and performance by accessing specialist knowledge, skills, technologies and expertise of the UK's knowledge base into business.

The partnership involves one or more recently qualified persons (Associate) to facilitate this transfer of knowledge. The Associate works within a company on a project that is central to your needs and is supervised by both the company personnel and a senior academic. KTPs are part funded by the government depending on the duration of the project and size of the company.

What is a short Knowledge Transfer Partnership (sKTP)?

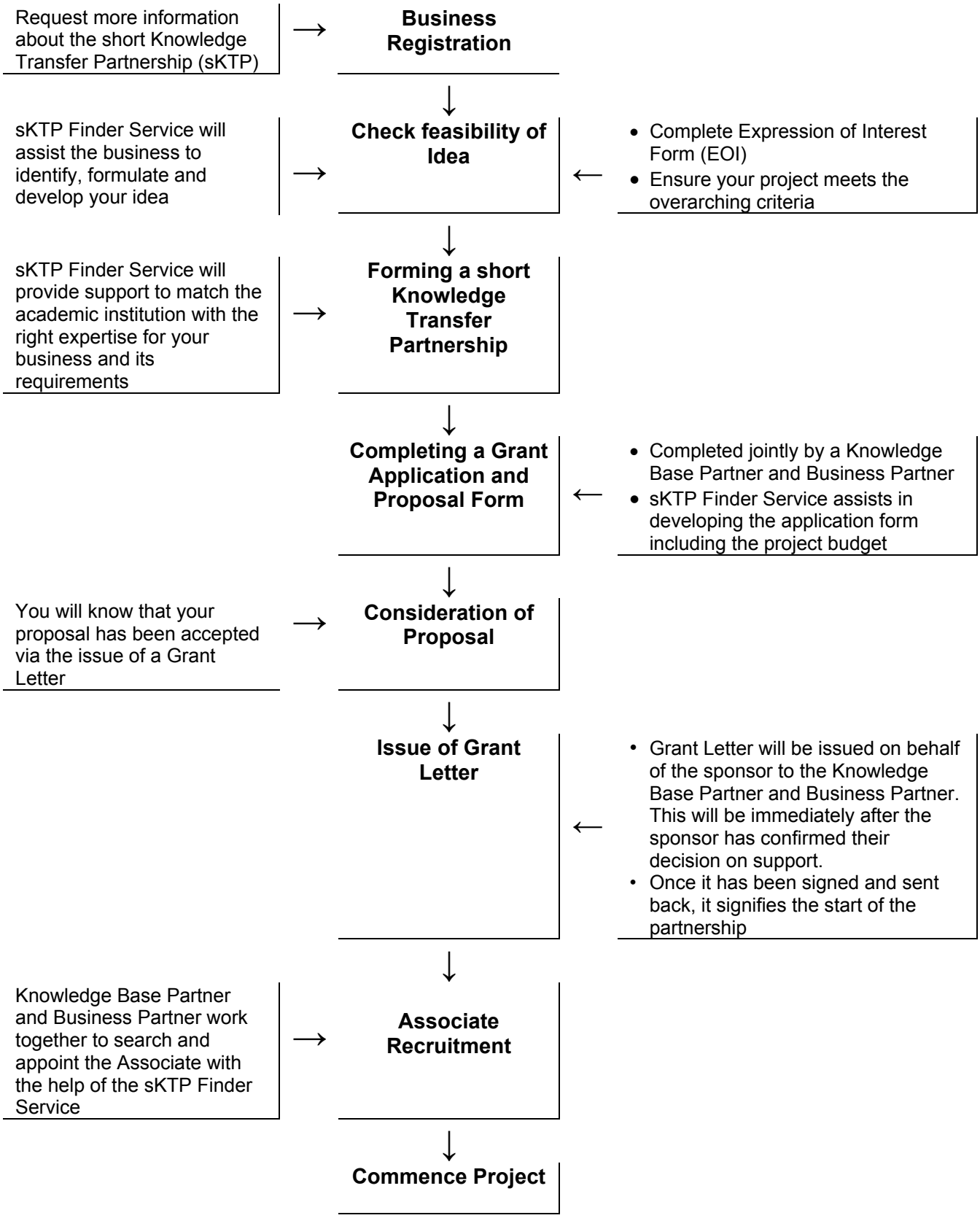
The primary function of a Short Knowledge Transfer Partnerships (sKTPs) is the same as a classic KTP - to improve a company's performance through the expertise of a qualified Associate.

sKTPs are aimed at micro-sized businesses and SMEs, however third sector organisations, large companies and the public sector may also be eligible.

sKTPs typically last between 10-40 weeks and aim to address short-term, tactical issues requiring expertise that are not currently available within the organization. A typical 10 week sKTP can cost around £9,500 depending on the extent of the project and the size of the company; typically 60% of this would be funded by the government grant.

sKTPs can be a one-off project. Alternatively they can follow-on from, or lead to, or run in parallel with a classic KTP which typically last between 1 - 3 years and aim to tackle long-term, more strategic issues. A company could even have a number of sKTPs running in parallel.

Proposal Preparation Process



How does it work in the East Midlands?

The key objectives of every sKTP are:

- Facilitate the transfer of knowledge and increase the technical and business skills through an innovation project
- Provide company-based training for high calibre Associates in order to enhance their business and specialist skills
- Stimulate and enhance business relevant research and training undertaken by the knowledge base institution.

The *emda* sKTP Finder Service is specifically targeted with the identification and engagement of appropriate businesses in the region to undertake suitable low carbon sKTPs with Further Education colleges in the East Midlands.

With the assistance of the *emda* supported sKTP service, you will select a Knowledge Base Partner from the Further Education sector (FE) with experience that is relevant to your business. You will then work together to develop your identified low carbon business project which will enable you to employ their expertise and apply it to your business.

The key themes targeted through the sKTP Finder Service are:

- Low Carbon Manufacturing
- Low Carbon Vehicles
- Renewable Energy
- Low Carbon Building Services
- Low Carbon Power systems; and
- Low Carbon Management and Innovation.

The sKTP can cover a number of business needs including:

- Assistance in the launch of innovative new products
- Finding new and innovative home and overseas markets
- Exposure to new and improved computer systems and management processes
- Exposure to pioneering new technology
- Implementation of new and improved process performance.

The partnership involves a project team involving a Knowledge Base Partner, an Associate and a Company Partner.

Knowledge Base Partner

The *emda* sponsored sKTP Finder Service will help businesses to seek Further Education (FE) colleges in the region to participate with the identified low carbon sKTP.

The FE partner will be responsible for the academic supervision of the Associate during the term of the sKTP, and will commit *Vz* day per week to fulfilling this activity.

The FE partner will guide the academic development of the Associate, provide expertise to the sKTP project and provide links to others within the FE college.

Associate

The Associate is based at the company premises and is normally employed by the knowledge base partner. The Associate is supervised by both the FE supervisor and the company supervisor.

The Associate will be an individual, recently qualified, with the equivalent of

- First or higher degree, **or**
- National Vocational Qualification level 4, **or**
- Higher National Certificate/Diploma, **or**
- Foundation Degree, **or**
- Minimum qualification of NVQ Level 3.

The Associate can be engaged to work on the project on either a full time or part time basis dependent upon the requirements of the sKTP. The Associate can be identified from one of three sources:

- An existing employee of the FE Knowledge Base wishing to experience working within a business and commercial environment
- An existing employee of the Company Partner wishing to undertake professional development activities linked to the FE Knowledge Base
- An individual specifically recruited by the FE Knowledge Base and Company Partner with the expertise required for the sKTP

Company Partner

sKTPs are aimed at micro-sized businesses and SMEs, however third sector organisations, large companies and the public sector may also be eligible. The following businesses can take part in a sKTP

- Qualifying public sector organizations
- Health organizations such as NHS Trusts and hospitals
- Third sector organizations such as charities and not-for-profit organizations
- Education institutions such as LEAs, schools, FE colleges
- Businesses of all sizes from the industrial sector
-
- The role of the Company Partner is to host the sKTP, providing day to day support to the project. Additionally the Company Partner will provide support to the Associate attached to the sKTP and guide their professional development within the business and commercial environment.

What is the Benefit to a Company?

sKTPs are a cost-effective, low risk method of tapping into the expertise and resources of the regional FE knowledge base to deliver projects addressing specific business needs. Through the sKTP the company is able to work with experts to generate improvements in your company. Additional benefits include:

- An increase in the skills of existing staff
- Develop pioneering solutions to help your organization grow and move forward
- Enhances competitiveness and potentially increases company profits
- Financial assistance with 60% of project budget being government funded
- Provides a basis for future collaborations
- Transfer of knowledge and technology
- Short, medium and long-term tangible benefits
- The exposure to new pioneering products, IT systems, processes and markets

What makes a Good Partnership?

A good partnership is one that addresses an issue of short-term tactical importance to the business which is a challenge for the Associate and requires the expertise of the Knowledge Base Partner. Additionally a good partnership requires the application of good Project Management.

What is the Cost of a sKTP?

Each sKTP budget is financed by a contribution from the Government (in the form of a grant that is not subject to VAT) awarded to the Knowledge Base Partner and the remaining by the Company Partner. As a result there is less risk to the company to go ahead with a partnership to invest and grow the business. The grant amount can depend on the following factors:

- The number of sKTP Associates to be employed
- Duration of the project
- Business size
- Location of the Company Partner/FE Knowledge Base Partner
- The plan of work to be undertaken

The Grant Rate depends on the size of the company. Usually for a micro-sized company or an SME (fewer than 250 employees), 60% of the costs are funded. For a large company 40% of the costs are funded. The grant itself is paid directly to the Knowledge Base Partner by the funding organization.

Within the sKTP the Government grant will cover costs for:

- Employment of the Associate(s)
- Staff from the Knowledge Base Institution involved in the partnership
- Provision for equipment & consumables
- Travel & Subsistence costs
- Knowledge Base Partners indirect and admin costs associated with the development of the Associate

The budget will depend on the duration of the specific. The example budgets below are based on the Associate being employed by the Knowledge Base and the costs being at the current maximum weekly rate which is set at £950.00.

	10 Week Project	**40 Week Project**
SME: Grant funded (60%) - £570 Company contribution - £380 **Total Weekly Cost - £950**	Grant = £5,700 Company Contribution = £3,800 **Total Project Cost = £9,500**	Grant = £22,800 Company Contribution = £15,200 **Total Project Cost = £38,000**
Large Company: Grant funded (40%) - £380 Company contribution - £570 **Total Weekly Cost - £950**	Grant = £3,800 Company Contribution = £5,700 **Total Project Cost = £9,500**	Grant = £15,200 Company Contribution = £22,800 **Total Project Cost = £38,000**

If the Associate is employed by the Company Partner then the Grant Rate for both SME and large enterprises is 40% (£380 per week). The grant amount is again paid directly to the Knowledge Base Partner.

Other costs that need to be covered by the Company Partner are:

- Full overhead costs of their own participation in the partnership (include supervising, management, capital equipment, accommodation and any other additional material)
- Contribute to the cost of purchased equipment for Associate to use in the project.

Appendix B: Project Update 17 February 2011

EMDA/EMFEC LOW CARBON KTP PROJECT UPDATE - 17 FEB 2011

There are currently 10 enquires generated by the GHA Finder Service and the progress on these is identified below.

Assoc. of Organics Recycling

This project is being developed by Russ Sharp at Moulton College and Phillipa Ryan of the KTP service is involved. The project will have to be submitted to TSB when the new funding and eligibility criteria have been applied to it and the application for funding portal opens.

Carbon Right

Awaiting any further expressions of interest from colleges. I have a meeting with Rob Somerville of Stephenson College shortly to follow up their initial expression of interest. Because of the new TSB requirements for funding KTP's the project is very unlikely to gain financial support as a KTP. However it may have some commercial value as a joint venture with further education. This needs investigation and follow up at the meeting with Stephenson College.

50 Cycles

This project involved the development of a marketing plan. As these types of projects are no longer in scope for TSB funding and the nature of the project would not fit the key objectives of developing technical skills capacity in further education it is proposed that the follow up from Roy Morgan-Wood of Leicester College be removed from the KTP programme and the enquiry developed as a college consultancy project.

Carbon Sequestration - Hausherr

This enquiry has been picked up by the National Fluid Power Centre at North Notts College. The project may be eligible for a KTP or as a college based consultancy. Following a meeting with Norman Taylor the NFPC is following up the enquiry and developing a dialogue with Hausherr regarding future collaboration.

Canal Society - Lock rebuilding

This project is now considered not to be relevant to the Low Carbon programme and having spoken to Mike Wood of ADDC Architects I have explained the position. It may be that a college or an organisation such as Groundworks could be interested as a regeneration project.

Electrical Design and Manufacturing

Having spoken to Jaspal Minnas it is clear that this project is a high level technical design project beyond the capacity of colleges which generally have limited or no design expertise. Following a discussion with Phillipa Ryan it was agreed to pass this enquiry over to a Higher Education institution with the relevant electronics expertise. Phillipa Ryan is following this

Rural Energy

Following contacts with the company I have not as yet been able to progress the expression of interest. However the nature of the biomass technology in Rural Energy is a key technology which needs to be developed in Further Education. Currently I am trying to find a college willing to partner with the company following the withdrawal of an initial expression of interest.

FEBRUARY 2011 EXPRESSIONS OF INTEREST

The three new expressions of interest emailed on 7 February 2011 for

Mansfield Refrigeration

John Merison

Loreus

are currently being followed up and enquires being made regarding the suitability and eligibility of the proposal for KTP's

The changes to the TSB requirements for KTP and the funding changes need to be factored in to any further employer contacts and the progressing of enquiries. Alternative ways of developing college - employer links are being followed up so that the Low Carbon related projects of relevance to colleges are progressed.

EMFEC LOW CARBON ENERGY TASK GROUP KNOWLEDGE TRANSFER PARTNERSHIPS AND EMPLOYER ENGAGEMENT OPPORTUNITIES PROJECT UPDATE FEBRUARY 2011

This project update from the East Midlands Energy Task Group of FE colleges will be of interest to Colleges who are keen to continue developing their Low Carbon curriculum and services to employers through consultancy. Through the group's work and the project finder service, funded by EMDA, there are a number of projects which are seeking a partner college to link with the business. Some of these projects may be eligible for funding from the Knowledge Transfer Partnership scheme operated by the Technology Strategy Board. Others will not necessarily attract funding but are ideal opportunities to partner with businesses to develop employer liaison activities and help expand college involvement in the Low Carbon economy.

Below is a list of the projects currently available. If you are interested in following up one or more of these then please contact EMFEC (details below).

- Mansfield Refrigeration and Air Conditioning are seeking a partner college to up-skill staff on the installation of heat pump systems including specifying the design and its integration with other heating systems.
- John Merison (Coalville) is seeking a college to partner with to develop training packages for the construction industry in the introduction of energy efficiency technology including thermal imaging and insulation.
- LOREUS (Nottingham) wants to develop carbon management and awareness training to assist businesses in achieving the carbon reduction targets set by government. The project has a marketing aspect in that the packages will be marketed as part of the programme.
- Rural Energy(Rutland / Leics) are involved with biomass technology and are seeking a college interested in helping with the design of a fuel store. This project may be of interest to design students as well as construction.
- Carbon Right (Glenfield, Leics) want to develop educational and behavioural tools including training and education packages to assist organisations to achieve carbon reduction targets. This project is an opportunity for a college to get involved in learning package development including software.

If you would like to discuss any of these opportunities or you are developing your own project and would like advice any assistance please do get in touch.

Contact: EMFEC Energy Task Group Consultant - Phil Fone Mobile 07934-746872
Or contact Simon Feneley or Ruth Wheelhouse at EMFEC Tel: 0115 8541616

Appendix C: TSB Briefing on New Eligibility Criteria for KTPs December 2010

Criteria for Support of Knowledge Transfer Partnership Projects
December 2010

The Technology Strategy Board

The Technology Strategy Board's objective is the acceleration of sustainable UK economic growth through the commercialisation of science, technology and new ideas. The Board has a broad remit across all business sectors, but has identified a number of priority challenge and technology areas on which to focus its investment and resources. The Technology Strategy Board works in partnership with the Research Councils, the Devolved Administrations and UK Government Departments, through aligned funding in key areas.

Knowledge Base Organisations

The knowledge base partner in a KTP Project should be the most appropriate to meet the business need.

The HEFC research rating of an HEI's academic department will not be a factor in assessing whether the Technology Strategy Board will support a KTP project. The Board is therefore prepared to consider funding KTP proposals involving HEIs and FEIs (teaching to at least NVQ Level 4), as well as public and private sector research and technology organisations (RTOs) which satisfy the eligibility criteria.

Business Size and Characteristics

The Technology Strategy Board wishes to focus its funding primarily on supporting SMEs and third sector organisations across the UK, and particularly those which show high growth potential. Participation in KTP by large companies (and organisations) will be conditional upon them demonstrating how they propose to draw in and facilitate the involvement of supply chain companies and SMEs.

Technologies, Disciplines and Subject Areas

The Technology Strategy Board wishes to align the KTP projects it supports more closely with its priorities. These embrace:

- technology innovation (advanced materials, bioscience, electronics, photonics and electrical systems, information and communication technology, and nanotechnology),
- competency innovation (high value manufacturing, digital technologies, including design)
- challenge led innovation (energy generation and supply, sustainability (the built environment and food), healthcare, transport, creative industries, space, and high value services)
- Innovation platforms (low carbon vehicles, assisted living, low impact buildings, detection and identification of infectious agents, sustainable agri-food supply chain, stratified medicine)

The Technology Strategy Board's priority is to fund KTP projects which demonstrate the potential for a high level of innovation, economic and/or societal impact, as well as challenge for all the participants, in the areas listed below (more detail of the strategies for these can be found on the Technology Strategy Board website. We therefore wish to prioritise technology-based KTPs involving the transfer of knowledge, technology and expertise within these areas. This includes projects with businesses and third sector organisations working within these areas, as well as projects which address issues which come under these headings but involve businesses in other market sectors

- Advanced materials
- Nanotechnology
- Biosciences
- Electronics, photonics and electrical systems
- Information and communication technologies
- High value manufacturing
- Digital technologies
- Emerging technologies
- Energy generation and supply
- Environmental sustainability
  - Sustainable agriculture and food
  - Low impact buildings
- Creative industries
- High value services
- Medicines and healthcare
  - Assisted living
  - Detection and identification of infectious agents
  - Stratified medicine
- Transport
  - Low carbon vehicles
- Space

The Technology Strategy Board intends that 75% of the KTP portfolio it funds should be technology-based projects within its priority areas (as described above) and should wherever possible be funded jointly with another KTP funding organisation. The other 25% should address underpinning or enabling capabilities (including projects addressing strategic challenges associated with marketing, business systems and processes). These projects must demonstrate the potential for high impact and fall within the priorities of at least one other KTP funding organisation and will, in all cases, be jointly funded. The Technology Strategy Board will no longer be the 'funder of last resort'.

It is intended that, in due course, half of the projects funded within the Technology Strategy Board's priority areas should be stimulated through targeted 'calls' for proposals in specific areas, and the remainder should continue to be responsive to unsolicited proposals. Such 'calls' will be publicised through the KTP, KTN and Technology Strategy Board websites, as well as directly to the KTP stakeholder community.

Shared funding / sole funding

The Board would prefer shared funding whenever possible, but will sole fund if necessary for projects focusing on the transfer of knowledge, technology and expertise within its priority areas.